



User's Manual

**1x2 DVI Distribution Amplifier
1x5 DVI Distribution Amplifier
DD-D12 / DD-D15**



Cautions:

1. Digital Extender® logo is our own trademark of RTcomUSA.,Inc.
2. Any of the products may be changed without any notice in order to improve the function of the product.
3. The design and specification of the product may be changed without any prior notice.

Table of Contents

Unpacking.....	3
Declaration of Conformity	3
Description, General Specification.....	4
Main Features	6
Video Connection.....	7
Mechanical Specification	8
Technical Specification	9
Warranty Information.....	10
Troubleshooting.....	11

Unpacking

Each Digital Extender DVI Distributor package includes the following items;

- DD-D12 / DD-D15 DVI Distribution Amplifier Unit x 1
- 5V, 2A Power Supply Adapter x 1
- User's manual x 1

Declaration of Conformity

According to Council Directive 73/23/EEC (February 19, 1973) on the Harmonization of the Laws of Member States relating to Electrical Equipment; Council Directive 89/336/EEC (May 3, 1989) on Electromagnetic Compatibility; Council Directive 93/68/EEC (July 22, 1993)-Amending Directives 89/336/EEC (MC) and 73/23/EEC (Low Voltage Equipment Safety), and/or CPU Boards and Power Supplies used Council Directive 93/68/EEC with Distributor, RTcomUSA, Inc., 286 Houses Corner Rd. Sparta, NJ 09871 973-383-4878, declares under sole responsibility, that the product identifies with 93/66/EEC of the Council Directive Low Voltage Equipment Safety. Each product marketed is identical to the representative unit tested and found to be compliant with the standards.

Description, General Specification

Digital Extender DD-D12 and DD-D15, DVI Distribution Amplifiers, allow one digital video sources to be split into multiple digital displays.

The built-in amplification function enables DVI signal distribution without signal loss

ITEM	DESCRIPTION	DESCRIPTION
Model Name	DD-D12	DD-D15
Input Signal	DVI Single Link , 1port	DVI Single Link , 1port
Output Signal	DVI Single Link , 2port,	DVI Single Link , 5port
Resolution	Up to WUXGA 480i/p , 720i/p , 1080i/p	Up to WUXGA 480i/p , 720i/p , 1080i/p
Receptacle	DC Power Jack DVI-D	DC Power Jack DVI-D
HDCP Support	OK	OK
Power Consumption	DC +5V , 6W Max	DC +5V , 6W Max
Dimension	272(W)x151(D)x30(H) mm	365(W)x151(D)x30(H) mm
Weight	1.0 Kg	1.4 Kg

1-2 Description, General Specification

Environmental and Reliability Specifications

1 Operating Conditions

Temperature : 10°C ~ 40°C

Humidity : 10% ~ 80%, non-condensing

Altitude : maximum 3,000m

2 Transportation Conditions

Temperature : -25°C ~ 60°C

Humidity : 5% ~ 95%, non-condensing

Altitude : maximum 15,000m

3 Storage Conditions

Temperature : -20°C ~ 45°C

Humidity : 5% ~ 95%, non-condensing

Altitude : maximum 3,000m

4 Reliability Specifications

MTBF : more than 50,000 hours at 90% confidence level

Reliability specification and items: refer to "Specification of reliability test for LCD monitor"

1-3 Environmental and Reliability Specifications

Main Features

High Quality Picture - No Signal Loss and Digital Noise Free

Our Distribution Amplifiers are built to deliver the highest quality picture preserving the native resolutions of the video sources without any signal loss. At the same time, the digital noises that may affect the picture quality will be eliminated. Due to the nature of the digital signals and passing through multiple stages of connection when using distribution amplifiers, it is important to eliminate the digital noises and boost the signal strength to preserve/enhance the video signal quality.

Signal Amplification for signal reliability and long length signal transmission.

Our 5V power adapter supplies adequate power to amplify the video signals from the video source. This is necessary as the overall length from the video source to the displays is longer when using the distribution amplifiers(distance from the video source to the distribution amplifier + distance from the distribution amplifier to the display). In most cases, the overall distance that the DVI signal will need to travel is over 10ft. Due to the nature of DVI signals, amplification is necessary to warrant the video quality and reliability. (Without amplification, there may be occasional blackouts or blinking effects) With this amplification feature, your video display can be extended up to 2300ft using our fiber optical DVI cables.

HDCP(High-bandwidth Digital Content Protection) Compliant

Our DVI distribution amplifiers are fully HDCP compliant. Many video sources such as DVD players and Satellite/Cable Receivers are HDCP encrypted. For these video sources to be displayed correctly, HDCP compliant devices(e.g., TV, DVI Switch, distribution amplifier) are required.

1-4 Main Features

Video Connection

1. Connect your video source's DVI output port to the DD-D12/15's DVI input port using standard DVI cables (not included). Make sure all your DVI source and the displays are turned off before connecting the cables.
2. Connect your DVI display's DVI input port to DD-12/15's DVI output ports. Make sure your DVI display is turned off before connecting the cables.
3. Plug the 5V power supply into the switch's power input port.
4. Plug the 5V wall mount power supply into the wall outlet.
5. Turn on power switch
6. Turn on your displays.
7. Turn on your video source.

**** DDC On/Off Switch**

DD-D12/D15 is built in DDC on/off dip switches in the back for each DVI output port.

DDC communication is required for some video sources and display (such as PC and LCD monitor) to correctly display the picture. In most cases, you will not need to change the factory settings,

If when the DDC is turned on for both DVI output channels, some video source may not work correctly as it sees multiple (conflicting) DDC information.

Please turn on DDC S/W. for the video display you would like the video source to recognize as the default display and at the same time, turn off DDC for all other DVI out ports. In such case, other DVI ports will transmit video according to the default display setting (DVI port with DDC turned on)

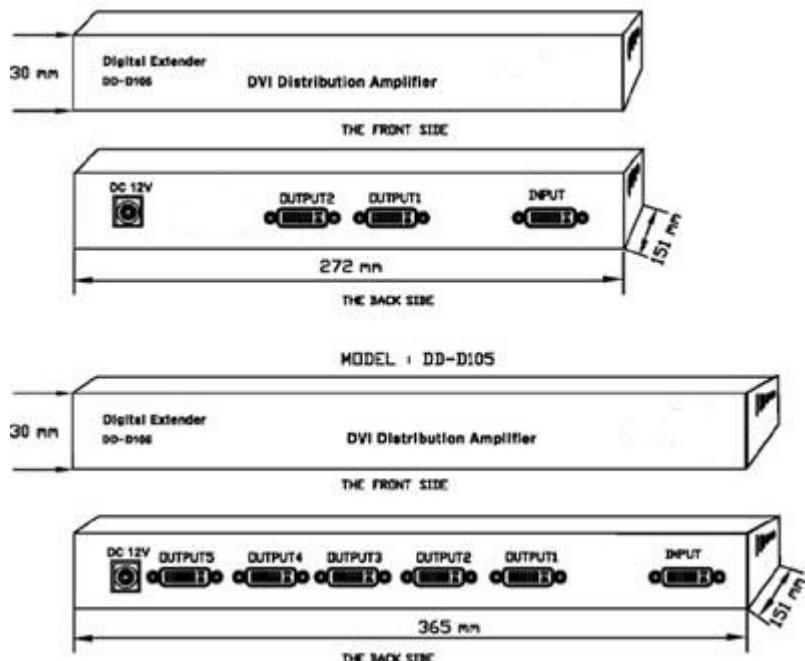
***Factory Setting: SW1: On, SW2 ~ SW5: Off**

Mechanical Specification

Dimensions

DD-D12 : 272x151x30 mm

DD-D15 : 365x151x30 mm



DC 5V : DC 5V Input

DVI IN : DVI-D Input Signal

DVI OUT CH1~5 : DVI-D Output Signals

1-6 Mechanical Specification

Technical Specification

Frequency bandwidth: 1.65 Gbps (Single Link)

Supporting Graphic Resolution: Up to WUXGA(1920x1200) at 60Hz

ATSC HDTV Signal: 480i/p, 720i/p , 1080i/p

Inputs: DVI Female 1port

Output: DVI Female ports (DD-D12/ 2 ports , DD-D15/ 5 ports)

Power supply: DC 5V, 2A Adapter included.

Connector Pin Assignment

DVI-D Single Link Input, Output

Part No.	Pin No.	Description	Remarks
DVI-D 29pin	1	TMDS DATA 2M	
	2	TMDS DATA 2P	
	3	TMDS DATA 2/4 Shield	
	4	N.C	
	5	N.C	
	6	DDC Clock	
	7	DDC Data	
	8	N.C	
	9	TMDS DATA 1M	
	10	TMDS DATA 1P	
	11	TMDS DATA 1/3 Shield	
	12	N.C	
	13	N.C	
	14	5V	
	15	GND	
	16	Hot Plug Detect	
	17	TMDS DATA 0M	
	18	TMDS DATA 0P	
	19	TMDS DATA 0/5 Shield	
	20	N.C	
	21	N.C	
	22	TMDS DATA Clock Shield	
	23	TMDS Clock P	
	24	TMDS Clock M	

1-7 Technical Specification

Warranty Information

1 (One) Year Warranty

RTcomUSA. warrants this Digital Extender's DD-D12 and DD-D15, DVI Distribution Amplifiers to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from RTcomUSA, Inc. or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, RTcomUSA shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of RTcomUSA.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

RTcomUSA. shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to RTcomUSA for repair under warranty or not.

Warranty Limitation and Exclusion

RTcomUSA. shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by RTcomUSA or its authorized agents, causes other than from ordinary use or failure to properly use the Product in the application for which said Product is intended.

1-8 Warranty Information

Troubleshooting

Problem	Solution
Distribution Amplifier will not operate	<p>Make sure the 5V power adapter is plugged in the back of the unit.</p> <p>Check to see if the power LED light is on.</p>
No picture(or signal) Or Poor picture	<ol style="list-style-type: none"> 1. In case your video source is HDCP enabled, make sure your video display(HDTV) is HDCP compliant. 2. If you are using copper based DVI cable, overall length of the cables(length of the cable from video source to switch and length of the cable from switch to display) should not exceed 20ft. Exceeding 20ft. with copper based cables will result in no or poor picture quality. To extend beyond 50ft, please use fiber optical DVI extension cables such as RTcomUSA Inc. Model OC-series cables. 3. Use high quality DVI cables. 4. If you are using computers, try other refresh rate settings. Most HDTVs have refresh rate of 48Hz and computer's video cards are usually set at higher refresh rate(60Hz). Try lower refresh rates. 5. Make sure all DVI connectors are tightly secured to all DVI ports. loose screws on the DVI connectors will result in no or poor picture. 6. Turn off all equipments(video source, switch and HDTV) and restart all equipments.
Incorrectly sized picture /resolution or No picture	<p>Please remember that your video source will only support one resolution setting. To connect 1600x1200 resolution display and 800x600 resolution display, the resolution setting of your video source must be set to the lower resolution setting (800x600) OR, turn on DDC for the 800x600 display and turn off DDC for 1600x1200 display.</p>

1-9 Troubleshooting

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Revision 2 0806

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